

WHAT IS CLAIMED IS:

1. A method for manufacturing a magnetic head,  
comprising the steps of:

- 5       (a) forming a bottom core layer by plating;
- (b) forming a first lifting layer comprising a magnetic material and a second lifting layer comprising a magnetic material such that a gap is formed between the first lifting layer and the second lifting layer in a first direction;
- 10       (c) forming an inorganic insulating layer on the bottom core layer;
- (d) forming a groove having a plurality of turns in the inorganic insulating layer, the groove being disposed around the second lifting layer and the front portion of the groove  
15       being disposed between the first lifting layer and the second lifting layer;
- (e) forming a coil layer, having a plurality of turns and having a thickness larger than the depth of the groove, in the groove and the over the groove by continuous plating;
- 20       (f) insulating each area between the turns of the coil layer with an insulating material; and
- (g) forming a gap layer comprising a nonmagnetic material, and a top core layer comprising a magnetic material, the top core layer being connected to the second lifting  
25       layer and facing the first lifting layer with the gap layer provided therebetween.

2. The method for manufacturing a magnetic head

according to claim 1, further comprising the step of:

forming a part of track width control portion on the first lifting layer, the track width control portion including the gap layer and having a width smaller than the width of the front end of the top core layer, in a second direction orthogonal to the first direction.

3. The method for manufacturing a magnetic head according to claim 2, wherein the gap layer in the track width control portion comprises a nonmagnetic material, and the track width control portion further comprises a top pole layer having a width smaller than the width of the front end of the top core layer in the second direction.

4. The method for manufacturing a magnetic head according to claim 2, wherein the track width control portion further comprises a bottom pole layer comprising a magnetic material having a width smaller than the width of the first lifting layer in the second direction, the bottom pole layer being disposed between the gap layer and the first lifting layer.

5. The method for manufacturing a magnetic head according to claim 1, wherein each turn of the coil layer comprises a bottom segment and a top segment, the top segment having a width larger than the width of the bottom segment.

6. The method for manufacturing a magnetic head

according to claim 1, wherein the inorganic insulating layer comprises  $\text{SiO}_2$ .

7. The method for manufacturing a magnetic head  
5 according to claim 1, further comprising the steps of:  
forming a third lifting layer on the second lifting layer; and  
connecting the top core layer to the third lifting layer.

10 8. The method for manufacturing a magnetic head  
according to claim 1, further comprising the steps of:  
forming a second coil layer on the insulating material directly or with another layer provided therebetween so as to be electrically connected to the coil layer; and  
15 forming an insulating layer on the second coil layer to form the top core layer on the insulating layer.